

What is claimed is:

1. A process for making an uncrosslinked polymeric foam comprising:

5 a) mixing a reactive phase comprising at least one polymerizable material having an effective glass transition temperature sufficient to permit the formation of a stable foam upon polymerization of the material and subsequent removal of an immiscible phase with no effective amount of crosslinking agent and at least one emulsifier with at least one initiator system and a liquid immiscible with the reactive phase to form an emulsion wherein the immiscible liquid forms a discontinuous or co-continuous phase with the continuous reactive phase;

b) shaping the emulsion; and

10 c) causing the emulsion to polymerize such that it forms a stable foam.

2. The process of claim 1 wherein the initiator system comprises a photoinitiator.

20 3. The process of claim 1 wherein the initiator system comprises a thermal initiator.

4. The process of claim 1 wherein the initiator system comprises a redox initiator.

25 5. The process of claim 1 wherein the foam formed has an effective glass transition temperature of at least 30°C.

30 6. The process of claim 1 wherein the polymerizable material comprises an ethylenically unsaturated monomer.

7. The process of claim 1 wherein the polymerizable material is a cationically-curable monomer.

8. The process of claim 1 wherein one polymerizable material and the
5 emulsifier are the same material.

9. The process of claim 1 wherein the immiscible liquid is water.

10. The process of claim 1 wherein the immiscible liquid comprises at least 74
10 volume percent of the emulsion.

11. The process of claim 1 wherein the reactive phase further comprises
materials that can incorporate functional groups into the foam.

12. The process of claim 1 wherein an open cell foam is produced.

13. The process of claim 1 wherein a closed cell foam is produced.

14. An emulsion having a continuous reactive phase comprising at least one
20 polymerizable material having a glass transition temperature sufficient to permit the
formation of a stable foam upon polymerization of the material, no effective amount of
crosslinking agent, at least one initiator system, and a discontinuous or co-continuous
phase comprising a liquid immiscible with the reactive phase.

15. The emulsion of claim 14 wherein the immiscible liquid comprises at least
25 74 volume percent of the emulsion.

16. The emulsion of claim 14 wherein the immiscible liquid is water.

17. An open cell uncrosslinked foam able to be collapsed when exposed to one
30 or both of heat and pressure.

18. A closed cell uncrosslinked foam of homogeneous composition comprising residue of a photoinitiator that absorbs at wavelengths of 300 to 800 nanometers.

19. The foam of claim 17 wherein the foam absorbs liquid.

20. The foam of claim 19 wherein the fluid is transported primarily in a direction normal to a major surface of the foam.

21. The foam of claim 17 used as an ink receptor.

22. The foam of claim 17 used in an identification card.